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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,655	11/16/2005	Masanori Naritomi	052496	1376
38834 7590 09/02/2010 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER				
KRUEK, KEVIN R				
ART UNIT		PAPER NUMBER		
1787				
NOTIFICATION DATE		DELIVERY MODE		
09/02/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary

Application No.

10/533,655

Applicant(s)

NARITOMI ET AL.

Examiner

KEVIN R. KRUEER

Art Unit

1787

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on June 29, 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 5, 6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6 and 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-083)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection of claims 1, 2, 5, 6, and 8-13 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome by amendment.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallenbach (US 5,212,214) in view of Akihoshi (US 4,642,161).

Kallenbach teaches a substrate coated with an arylene sulfide composition comprising ceramic micro-sphere filler (herein relied upon to read on the claimed powder filler) (abstract). The particles may comprise silica (col 9, lines 60+). The substrate may comprise aluminum or aluminum alloys (col 9, lines 24+). Alternatively, it would have been obvious to utilize an aluminum-alloy rather than an aluminum substrate in order to improve the properties of the substrate layer.

Kallenbach does not teach the claimed pretreatment. However, Akihoshi teaches a treatment process for metal substrates such as copper (abstract) though the teachings are not limited to copper (col 7, lines 25+). Said treatment improves the

adhesion of metal to plastics such as polyphenylene sulfide (col 7, lines 25+). The metal is treated immersed (col 5, lines 14+) in a solution of water and a substance selected from reducing agent such as hydrazine (col 4, lines 7+). Said treatment makes the aluminum substrate more susceptible to further coating treatments by utilizing the minute unevenness created by the removed oxide (col 2, lines 30+). The reaction is performed at 40-70C at concentrations of 0.1g/l or higher (col 4, lines 12+). The immersion is continued until the reaction is completed. Thus, it would have been obvious to the skilled artisan to pre-treat the aluminum alloy with the treatment taught in Akihoshi in order to improve the adhesion between the substrate and the polyarylene sulphide coating. Furthermore, it would have been obvious to optimize the time, temperature, concentration, and selection of the reducing agent in order to optimize the surface roughness and enhance the adhesion.

4. Claims 1, 2, 5, 6, and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haak (US 20010036559) in view of Akihoshi (US 4,642,161).

.Haak teaches a substrate coated with an arylene sulfide composition (0016) comprising long fibers (abstract). The fibers may comprise glass fibers (0016). The substrate may comprise aluminum or aluminum alloys (claim 6). Alternatively, it would have been obvious to utilize an aluminum-alloy rather than an aluminum substrate in order to improve the properties of the substrate layer. The laminate is made by injection molding (0020-0022).

Haak does not teach the claimed pretreatment. However, Akihoshi teaches a treatment process for metal substrates such as copper (abstract) though the teachings

are not limited to copper (col 7, lines 25+). Said treatment improves the adhesion of metal to plastics such as polyphenylene sulfide (col 7, lines 25+). The metal is immersed (col 5, lines 14+) in a solution of water and a substance selected from reducing agent such as hydrazine (col 4, lines 7+). Said treatment makes the aluminum substrate more susceptible to further coating treatments by utilizing the minute unevenness created by the removed oxide (col 2, lines 30+). The reaction is performed at 40-70C at concentrations of 0.1g/l or higher (col 4, lines 12+). The immersion is continued until the reaction is completed. Thus, it would have been obvious to the skilled artisan to pre-treat the aluminum alloy with the treatment taught in Akihoshi in order to improve the adhesion between the substrate and the polyarylene sulphide coating. Furthermore, it would have been obvious to optimize the time, temperature, concentration, and selection of the reducing agent in order to optimize the surface roughness and enhance the adhesion.

Response to Arguments

Applicant's arguments filed 6/29/2010 have been fully considered but they are not persuasive.

Applicant argues Akahoshi discloses removing the oxide layer formed on the surface of the copper by using a reducing agent which does not correspond to the 3 to 10wt% hydrazine monohydrate aqueous solution recited in the present claims. Specifically, applicant argues the claimed hydrazine solution reacts with an aluminum surface to form fine recesses through a basic (not a reduction) reaction. In support of said argument, applicant proposes a reaction formula (see page 7 of the response).

Said argument has been fully considered but is not persuasive because the argument is not commensurate in scope with the claimed invention (no reaction is claimed) and is not supported by the original disclosure. Applicant's argument also ignores the fact that aluminum (like copper) will easily form an inherent oxide layer when exposed to air. Thus, the hydrazine will need to reduce the aluminum oxide before being able to react with the bare aluminum layer as suggested by applicant.

Applicant further argues the surface of aluminum alloy is different from a copper alloy in the surface state. Said argument is noted but is not persuasive as applicant fails to provide any evidence supporting said conclusion. Applicant is reminded that counsel's argument cannot take the place of evidence.

Applicant further argues that even if it would have been obvious to modify Kallenbach to include the processing disclosed in Akahoshi, the modification would not result in the formation of recesses. Said argument is noted but is not commensurate in scope with the claims as the claims do not require the hydrazine treatment to cause the formation of the claimed fine recesses.

For the reasons noted above, the rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN R. KRUER whose telephone number is (571)272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin R Kruer/

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Primary Examiner, Art Unit 1787